-- 8. (New) A zirconium-based alloy comprising:

zirconium; and

in addition to unavoidable impurities, by weight, from 0.02 to 1% iron, from 0.8% to 2.3% niobium, less than 2000 ppm tin, less than 2000 ppm oxygen, less than 100 ppm carbon, from 5 to 35 ppm sulphur and less than 0.25% in total of at least one of chromium and vanadium, a ratio of a niobium content less 0.5% to an iron content and at least one of not supplemented and supplemented by at least one of a chromium and a vanadium content lower than 3.

$$R = (Nb - 0.5) / (Fe + Cr + V)$$

9. (New) The zirconium-based alloy according to claim 8, wherein the niobium is from 0.8% to 1.1% by weight, the iron from 0.3% to 0.35% by weight, the tin from 0.15% to 0.20% by weight, the at least one of chromium and vanadium from 0.01 to 0.1% by weight, the oxygen from 1000 to 1600 ppm, the sulphur from 5 to 35 ppm and the carbon less than 100 ppm.

10. (New) The zirconium-based alloy according to claim 8, where the oxygen is from 1000 to 1600 ppm.

11. (New) A cladding tube comprising:

an tubular arrangement of a zirconium-based alloy comprising:

zirconium; and

in addition to unavoidable impurities, by weight, from 0.02 to 1% iron, from 0.8% to 2.3% niobium, less than 2000 ppm tin, less than 2000 ppm oxygen, less than 100 ppm carbon, from 5 to 35 ppm sulphur and less than 0.25% in total of at least one of chromium and vanadium, a ratio of a niobium content less 0.5% to an iron content and at least one of not supplemented and supplemented by at least one of a chromium and a vanadium content lower than 3 in a recrystallized state.

12. (New) A flat product comprising:

a flat arrangement of a zirconium-based alloy comprising:

zirconium; and

in addition to unavoidable impurities, by weight, from 0.02 to 1% iron, from 0.8% to 2.3% niobium, less than 2000 ppm tin, less than 2000 ppm oxygen, less

than 100 ppm carbon, from 5 to 35 ppm sulphur and less than 0.25% in total of at least one of chromium and vanadium, a ratio of a niobium content less 0.5% to an iron content and at least one of not supplemented and supplemented by at least one of a chromium and a vanadium content lower than 3 a recrystallized state.

13. (New) A method of manufacturing nuclear components comprising:

configuring components of a pressurized water reactor from an alloy comprising:

zirconium; and

in addition to unavoidable impurities, by weight, from 0.02 to 1% iron, from 0.8% to 2.3% niobium, less than 2000 ppm tin, less than 2000 ppm oxygen, less than 100 ppm carbon, from 5 to 35 ppm sulphur and less than 0.25% in total of at least one of chromium and vanadium, a ratio of a niobium content less 0.5% to an iron content and at least one of not supplemented and supplemented by at least one of a chromium and a vanadium content lower than 3, wherein pressurized water initially contains less than 5 ppm of lithium.

14. (New) A method of making tubes that are configured to constitute at least one of all and the external portion of at least one of a nuclear fuel rod cladding and a guide tube for a nuclear fuel assembly comprising:

producing a bar from a zirconium-based alloy also containing, by weight, apart from unavoidable impurities, from 0.02 to 1% iron, from 0.8% to 2.3% niobium, less than 2000 ppm tin, less than 2000 ppm oxygen, less than 100 ppm carbon, from 5 to 35 ppm sulphur and less than 0.25% in total of at least one of chromium and vanadium, a ratio of a niobium content less 0.5% to an iron content and at least one of not supplemented and supplemented by at least one of a chromium and a vanadium content lower than 3;

water-quenching the bar after heating at from 1000°C to 1200°C;

extruding a blank after heating at from 600°C to 800°C;

cold-rolling in at least two passes to obtain a tube, with intermediate thermal treatments at from 560°C to 620°C; and

carrying out a final thermal treatment at from 560°C to 620°C, all of the thermal treatments being carried out in at least one of an inert atmosphere and